```
       RAW SEQUENCE LISTING              DATE: 09/19/2000
       PATENT APPLICATION:  US/09/398,253    TIME: 18:39:26

       Input Set : A:\8535-026.txt
       Output Set: N:\CRF3\09192000\I398253.raw

 4 <110> APPLICANT: Nehls, Michael
 5         Zambrowicz, Brian
 6         Sands, Arthur T.
 8 <120> TITLE OF INVENTION: NOVEL HUMAN POLYNUCLEOTIDES AND THE
 9         POLYPEPTIDES ENCODED THEREBY
12 <130> FILE REFERENCE: 8535-0026-999
14 <140> CURRENT APPLICATION NUMBER: US 09/398,253
15 <141> CURRENT FILING DATE: 1999-09-17
17 <150> PRIOR APPLICATION NUMBER: US 60/095,989
18 <151> PRIOR FILING DATE: 1998-08-10
20 <150> PRIOR APPLICATION NUMBER: US 60/100,917
21 <151> PRIOR FILING DATE: 1998-09-17
23 <160> NUMBER OF SEQ ID NOS: 1008
25 <170> SOFTWARE: FastSEQ for Windows Version 4.0
27 <210> SEQ ID NO: 1
28 <211> LENGTH: 40
29 <212> TYPE: DNA
30 <213> ORGANISM: Artificial Sequence
32 <220> FEATURE:
33 <223> OTHER INFORMATION: Primer
35 <400> SEQUENCE: 1
36 tggctaggcc ccaggatagg cctcgctggc cttttttttt            40
38 <210> SEQ ID NO: 2
39 <211> LENGTH: 24
40 <212> TYPE: DNA
41 <213> ORGANISM: Artificial Sequence
43 <220> FEATURE:
44 <223> OTHER INFORMATION: Primer
46 <400> SEQUENCE: 2
47 gccatggctc cggtaggtcc agag                             24
49 <210> SEQ ID NO: 3
50 <211> LENGTH: 19
51 <212> TYPE: DNA
52 <213> ORGANISM: Artificial Sequence
54 <220> FEATURE:
55 <223> OTHER INFORMATION: Primer
57 <400> SEQUENCE: 3
58 tggctaggcc ccaggatag                                   19
60 <210> SEQ ID NO: 4
61 <211> LENGTH: 19
62 <212> TYPE: DNA
63 <213> ORGANISM: Artificial Sequence
65 <220> FEATURE:
66 <223> OTHER INFORMATION: Primer
68 <400> SEQUENCE: 4
69 gtccagagat ggccatagc                                   19
71 <210> SEQ ID NO: 5
```

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```
 72 <211> LENGTH: 18
 73 <212> TYPE: DNA
 74 <213> ORGANISM: Artificial Sequence
 76 <220> FEATURE:
 77 <223> OTHER INFORMATION: Primer
 79 <400> SEQUENCE: 5
 80 ccaggatagg cctcgctg                                            18
 82 <210> SEQ ID NO: 6
 83 <211> LENGTH: 23
 84 <212> TYPE: DNA
 85 <213> ORGANISM: Artificial Sequence
 87 <220> FEATURE:
 88 <223> OTHER INFORMATION: Primer
 90 <400> SEQUENCE: 6
 91 tacagttttt cttgtgaaga ttg                                      23
 93 <210> SEQ ID NO: 7
 94 <211> LENGTH: 19
 95 <212> TYPE: DNA
 96 <213> ORGANISM: Artificial Sequence
 98 <220> FEATURE:
 99 <223> OTHER INFORMATION: Primer
101 <400> SEQUENCE: 7
102 gggtagtccc caccttttg                                           19
104 <210> SEQ ID NO: 8
105 <211> LENGTH: 20
106 <212> TYPE: DNA
107 <213> ORGANISM: Artificial Sequence
109 <220> FEATURE:
110 <223> OTHER INFORMATION: Primer
112 <400> SEQUENCE: 8
113 tccaagtcct ggcatctcac                                          20
115 <210> SEQ ID NO: 9
116 <211> LENGTH: 171
117 <212> TYPE: DNA
118 <213> ORGANISM: Homo sapiens
120 <220> FEATURE:
121 <221> NAME/KEY: misc_feature
122 <222> LOCATION: (1)...(171)   /
123 <223> OTHER INFORMATION: n = A,T,C or G
125 <400> SEQUENCE: 9
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W--> 126 gtncacanan gannggncnt gtgaggacac agcnagaagc aagtctntgc atgncnagaa 60
W--> 127 gaacggcctc aacagacacc anncctgcca gcaccttgat cttggcttnt ggcctccaga 120
W--> 128 actgtgaaag antaaagatt ctgttgttta agccagtaca aaataaatag g   171

```
130 <210> SEQ ID NO: 10
131 <211> LENGTH: 294
132 <212> TYPE: DNA
133 <213> ORGANISM: Homo sapiens
135 <400> SEQUENCE: 10
136 agagtgtgac gatccccctg atgcggctga gatgttctga aatgaagacg ttggctctca 60
```

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        137 tccccagcct gaagagagaa aattctgaga tggctccctt acggattgag agcaggcact 120
        138 gggtaggaac acagccaaga acgattgcag gatgggtcct tccaggacac tgacgtctca 180
        139 gcttgcgcac tgtgagtccc tggacgagtt actccacctc tctgaacctc ctcctcactt 240
        140 gcataatggg aaaaataatg gacataggga gatgaaacaa gaccttggag acca          294
        142 <210> SEQ ID NO: 11
        143 <211> LENGTH: 241
        144 <212> TYPE: DNA
        145 <213> ORGANISM: Homo sapiens
        147 <220> FEATURE:
        148 <221> NAME/KEY: misc_feature
        149 <222> LOCATION: (1)...(241)
        150 <223> OTHER INFORMATION: n = A,T,C or G
        152 <400> SEQUENCE: 11
W--> 153 ggatgccttc taaacagcct accctgccca gngccatgat tactgtgacc acatcttcag 60
W--> 154 agccagaaaa caggatacct ggccctaagc atgcactcat ggagcanaag agttttaaat 120
W--> 155 ctgntatgcc acagaagaca gaagataaca tgcttactac acttgtnaag caacatgcag 180
        156 ccagccattt ccagtgcaaa ttatctcatt gcatagtgtg acaactaaag gtcataacca 240
        157 t                                                               241
        159 <210> SEQ ID NO: 12
        160 <211> LENGTH: 197
        161 <212> TYPE: DNA
        162 <213> ORGANISM: Homo sapiens
        164 <400> SEQUENCE: 12
        165 acaggatgcc tgtaatcatt attcagtgag cagcaacctg cagcagctcc tcctgactgg 60
        166 cagatgggcc tggcggccac ccagaggctg gggacacagc aagaatccag cacagcaccg 120
        167 atcccgattc cctcctcccc aaactacctg agccatggac ctcattttgt ggacaaaatt 180
        168 aaacttgcca ctttcac                                               197
        170 <210> SEQ ID NO: 13
        171 <211> LENGTH: 387
        172 <212> TYPE: DNA
        173 <213> ORGANISM: Homo sapiens
        175 <220> FEATURE:
        176 <221> NAME/KEY: misc_feature
        177 <222> LOCATION: (1)...(387)
        178 <223> OTHER INFORMATION: n = A,T,C or G
        180 <400> SEQUENCE: 13
W--> 181 tggtgcttac taaaaattga ataancgtgg aaaagagaaa atctccctct ttaaaaggaa 60
        182 cactgttgtg gacattttaa aatgcaaacg ccttggctgg aagtcagaaa tcgtgttctc 120
        183 tctgctaaac ctggtgtagc atttaacacg cttgaagtgg aggcatctgg tcaccaattt 180
        184 cacagcctgg acagagcaag aaggtgcggc tggcttagga ggcggcctgc cggggggggat 240
        185 cgtctgtcca tctgggcttg gtaaatgtca agggtcattt ccctgtcctg acatttgatt 300
        186 gtgaagcagg ttgcgaggta actctttcaa gggactggac tgtgacagtc accatagttg 360
        187 gacaataaaa cccgaacatc cttcacc                                    387
        189 <210> SEQ ID NO: 14
        190 <211> LENGTH: 326
        191 <212> TYPE: DNA
        192 <213> ORGANISM: Homo sapiens
        194 <220> FEATURE:
        195 <221> NAME/KEY: misc_feature
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          196 <222> LOCATION: (1)...(326)
          197 <223> OTHER INFORMATION: n = A,T,C or G
          199 <400> SEQUENCE: 14
W--> 200 ggacagtggc taactcagca gacnaaccac agcttcctgc cctttgcaga tggcntgaan 60
W--> 201 ataagagttt gccaaacaac taagatgggc tcttgattga gcaaanaaac cacaacatgg 120
W--> 202 gacacacaga gccaccctat tgncctactg tcattcaagc ttaaaggaga catatctaca 180
W--> 203 gacagggttt gagcctagtn atggnganaa ctttcttgga tgtctcaaca ncctgganat 240
W--> 204 gannntcccn acaaggcaga anancnaggt ggnacattgn tnntattgct ttttattcaa 300
          205 ttataaaagt aatgcatgct ttttgt                                    326
          207 <210> SEQ ID NO: 15
          208 <211> LENGTH: 166
          209 <212> TYPE: DNA
          210 <213> ORGANISM: Homo sapiens
          212 <400> SEQUENCE: 15
          213 tcagtatcct gacctggcaa ggtgttcctt aacctcccct ctggatcccc cttagcacac 60
          214 atctgggaca atggagcgtt cagcaccacg gacagcatta caccctcttc aagtgcttgt 120
          215 taaggccatt tgtctatttc actctcaagt aaataaaaat attttt              166
          217 <210> SEQ ID NO: 16
          218 <211> LENGTH: 638
          219 <212> TYPE: DNA
          220 <213> ORGANISM: Homo sapiens
          222 <220> FEATURE:
          223 <221> NAME/KEY: misc_feature
          224 <222> LOCATION: (1)...(638)
          225 <223> OTHER INFORMATION: n = A,T,C or G
          227 <400> SEQUENCE: 16
W--> 228 annttnttnt tgngnnanna tctganncca nccagantnn tactctgngg acantncatc 60
W--> 229 atgacnaagt cccactgann acagacattc aagccatcca tgttagangg ganttgatnc 120
W--> 230 cnttgccttt tgcnntgann gnganncttc ngtngccang nnganntgtn gcagntcatc 180
W--> 231 ttgnacgacc tctggctcat tgcatgccta catnatgacc aggttnnagt gattcccgtg 240
W--> 232 cttcngnctc ctgagaagct gggattacgg gcctctgcga gactgtttca tagatgctca 300
W--> 233 agacaccagc aaaccagngc caccgaacaa gtatgagaaa agaacaggct agattatgtt 360
          234 atccagaact tcacaaccat cagatctaga cagaaggagg tggacagtga acacagaaaa 420
          235 gctgtaaggt gtcctgtgac agatgtatgt ggtggacaca gcaggaccca gaggaaggaa 480
          236 gaaagaagct gctcttgaaa agaccctcaa accacgatgc tcaaggaagt gtcgagagat 540
          237 gaaggagagg tgtttgccag gcagagcagt agagacaagt tttcgccatg ttggtcaagc 600
W--> 238 tggtctcaaa cttctaacct nacgtaatcc accccgct                         638
          240 <210> SEQ ID NO: 17
          241 <211> LENGTH: 403
          242 <212> TYPE: DNA
          243 <213> ORGANISM: Homo sapiens
          245 <220> FEATURE:
          246 <221> NAME/KEY: misc_feature
          247 <222> LOCATION: (1)...(403)
          248 <223> OTHER INFORMATION: n = A,T,C or G
          250 <400> SEQUENCE: 17
W--> 251 gnaaagagaa aaacaacatt caacancaac ancaatttcc cgaggatccc tgcccacatt 60
W--> 252 canagtgnca catttaccta cttnanaggg gagatnaaag ccncactcta aggctcctta 120
W--> 253 tttccacagg ctggnaagca aacanggcnt acaggctttg cangagtgta tcctaattct 180
```

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W--> 254 cttactgaag aaaagtcaac agcagagaca ncacagaaaa aggaatcaaa gaggccaaat 240
W--> 255 ctgnggactc aaaacaataa gaaaaaataa atcaactttg ctaaaattta agaatgccag 300
     256 gggggtaggt aaatgcactg ggaagtatgt gtggactatg atgataataa atctcctttc 360
     257 aatacaactg atatttatca gaccttgaat aaaacactga atg                  403
     259 <210> SEQ ID NO: 18
     260 <211> LENGTH: 103
     261 <212> TYPE: DNA
     262 <213> ORGANISM: Homo sapiens
     264 <220> FEATURE:
     265 <221> NAME/KEY: misc_feature
     266 <222> LOCATION: (1)...(103)
     267 <223> OTHER INFORMATION: n = A,T,C or G
     269 <400> SEQUENCE: 18
     270 actttctcca agctactcag aagactgaag cagaaggatc acttgaggcc aggagttcaa 60
W--> 271 gatcagcctg agcaacatag ngaaacccta tctctaaaaa tac                  103
     273 <210> SEQ ID NO: 19
     274 <211> LENGTH: 333
     275 <212> TYPE: DNA
     276 <213> ORGANISM: Homo sapiens
     278 <400> SEQUENCE: 19
     279 gatcccatca tgcttctcct gtcaaatctc cttcgtctcc tcacatctgg gacccttct 60
     280 cagtgtgtcc tggcctttca taacctgcac actcttgaag aggattgcca gcaatgtcgg 120
     281 agagtgaccc gcggtggggg tttgtctgag gcttactcac aattgccgtg ggttatggac 180
     282 ttgtggagag aataccacgt acgcgagtgc cctttcacga catcacgtca gggtgcaggg 240
     283 tattgtcctg acttaccact gtgaagtcac ctttgatcac ttgggcaagg tgaactctgt 300
     284 gcatttctcc aacataaagt tattattttt ccc                             333
     286 <210> SEQ ID NO: 20
     287 <211> LENGTH: 92
     288 <212> TYPE: DNA
     289 <213> ORGANISM: Homo sapiens
     291 <400> SEQUENCE: 20
     292 gtggggtctt tcaagaggat cgcttccagg aggtcaaggc tgccatagcg ccactgcact 60
     293 ccagcctggg cgacagggca aaaccctgta tc                              92
     295 <210> SEQ ID NO: 21
     296 <211> LENGTH: 259
     297 <212> TYPE: DNA
     298 <213> ORGANISM: Homo sapiens
     300 <400> SEQUENCE: 21
     301 gaaatatatc atgtagttac atttcatcct tggaattcct ctctcctgtg agtgcaacct 60
     302 gatttgagat gtaaataaac tgcggtgata atgccggagt ctcgtcagac gcccagttct 120
     303 cccgccagcc gaggatggga gtgatgatga atggtgccag gcccgctgca taatcttttc 180
     304 tgttttaata ctcgattatc atgtccctca tcttccctgg acccaagact caacacatta 240
     305 aaatctcttt gtttcttcc                                             259
     307 <210> SEQ ID NO: 22
     308 <211> LENGTH: 270
     309 <212> TYPE: DNA
     310 <213> ORGANISM: Homo sapiens
     312 <400> SEQUENCE: 22
     313 gtggacgtca agaggaacac accagtggaa gaagacacaa gtggctggat attgagagga 60
```

r.Y.l.

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

```
                VERIFICATION SUMMARY              DATE: 09/19/2000
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                    Input Set : A:\8535-026.txt
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L:126 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:127 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:128 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:153 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:154 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:155 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:181 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13
L:200 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:201 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:202 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:203 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:204 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:228 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:229 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:230 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:231 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:232 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:233 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:238 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:251 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:252 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:253 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:254 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:255 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:271 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:345 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24
L:371 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26
L:410 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28
L:462 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32
L:463 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32
L:514 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36
L:560 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40
L:578 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41
L:579 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41
L:638 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46
L:639 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46
L:640 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46
L:641 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46
L:642 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46
L:655 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:47
L:657 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:47
L:697 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50
L:725 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:52
L:769 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55
L:770 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55
L:771 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55
L:772 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55
L:773 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55
```

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                    VERIFICATION SUMMARY              DATE: 09/19/2000
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L:774 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55
L:776 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55
```